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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

1. Applicant's arguments filed March 25, 2008, have been fully considered but they are not persuasive. Applicant argues Yamada et al. because it does not disclose or suggest: 1) determining a plurality of similarities or distances between each of frequency-converted feature parameters and a standard phonemic model, 2) selecting at least one predetermined frequency conversion coefficient by using the determined similarities or distances for each of the frames or 3) normalizing the input utterance by frequency-converting by the input utterance using the selected predetermined frequency conversion coefficient. Applicant also argues Chuang does not make up for the deficiencies of Yamada et al. because it does not disclose or suggest: 1) determining a plurality of similarities or distances between each of frequency-converted feature parameters and a standard phonemic model, 2) selecting at least one predetermined frequency conversion coefficient by using the determined similarities or distances for each of the frames or 3) normalizing the input utterance by frequency-converting by the input utterance using the selected predetermined frequency conversion coefficient.

2. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this instance, Yamada was cited for teaching a feature parameter extracting unit (13) for extracting feature parameters of the input voice of which the sound is analyzed in the sound analyzing unit (12) for each of frames, a standard patterned phoneme storing unit (14) for storing a plurality of standard patterned phonemes obtained by analyzing referential voices of a large number of specified persons, a

phoneme similarity calculating unit (15) for calculating a phoneme similarity between each of the standard patterned phonemes stored in the storing unit (14) and each of feature parameters extracted in the extracting unit (13) for each frames and for each of the standard patterned phonemes and producing a similarity vector composed of a plurality of phoneme similarities at a frame for each of frames, a normalized similarity vector calculating unit (16) for normalizing the similarity vectors produced in the calculating unit (15) to produce a normalized similarity vector having normalized phoneme similarities for each of frames, a regression coefficient calculating unit (17) for calculating a regression coefficient denoting a time variation of a normalized phoneme similarity in a normalized similarity vector obtained in the calculating unit (16) for each of frames and for each of the standard patterned phonemes and producing a regression coefficient vector composed of the regression coefficients for the standard patterned phonemes for each of frames, a normalized regression coefficient vector calculating unit (18) for normalizing the regression coefficient vector produced in the calculating unit (17) to produce a normalized regression coefficient vector for each of frames, and an input voice parameter series producing unit (19) for rearranging a time series of normalized similarity vectors calculated in the calculating unit (16) and a time series of normalized regression coefficient vectors calculated in the calculating unit (18) as a time series of input voice parameters. As indicated in the Final Office Action, Yamada does not specifically teach frequency converting the feature parameters by filtering with a plurality of predetermined frequency conversion coefficients. Chuang was cited for disclosing a system for speech recognition using preclassification and spectral normalization and teaches (col. 8, line 15 to col. 9, line 37) steps for compensating for frequency shifts due to variations in speech from different

speakers. The system provides non-linear frequency transformation filter, yielding expansion and compression along the frequency axis, providing a representation of the speech signal with a course approximation of the non-linear property of the human auditory system and provides a non-linear frequency transfer function providing simplicity and flexibility for changing from compression to expansion via an all-pass filter (30). The Examiner argues one of ordinary skill at the time of the invention would have recognized the advantages to modify the system of Yamada to implement a non-linear frequency transformation filter, as taught by Chuang, for the purpose of providing expansion and compression along the frequency axis to compensate for frequency shifts in the speech signals from different speakers, as taught by Chuang.

/Angela A Armstrong/

Primary Examiner, Art Unit 2626